# ETL01 Speed Limiter Device (SLD)

## Installation and Operating Manual




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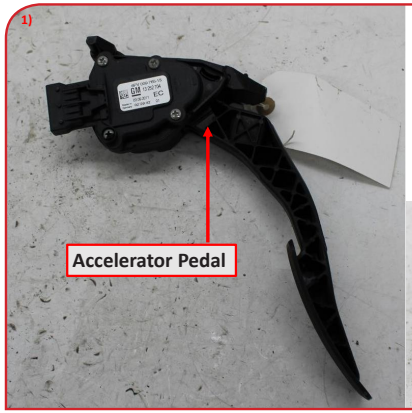
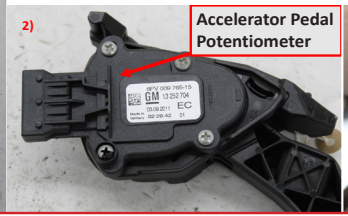
# ETL01
## Speed Limiter Device


## Vehicle Accelerator Pedal Potentiometer

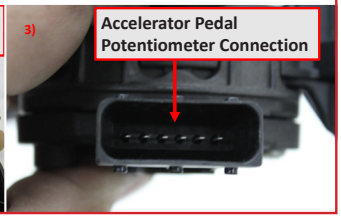
1)




2)




3)

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**ETL01 Bar Code**


**SPEEDLIMITER QR CODE**

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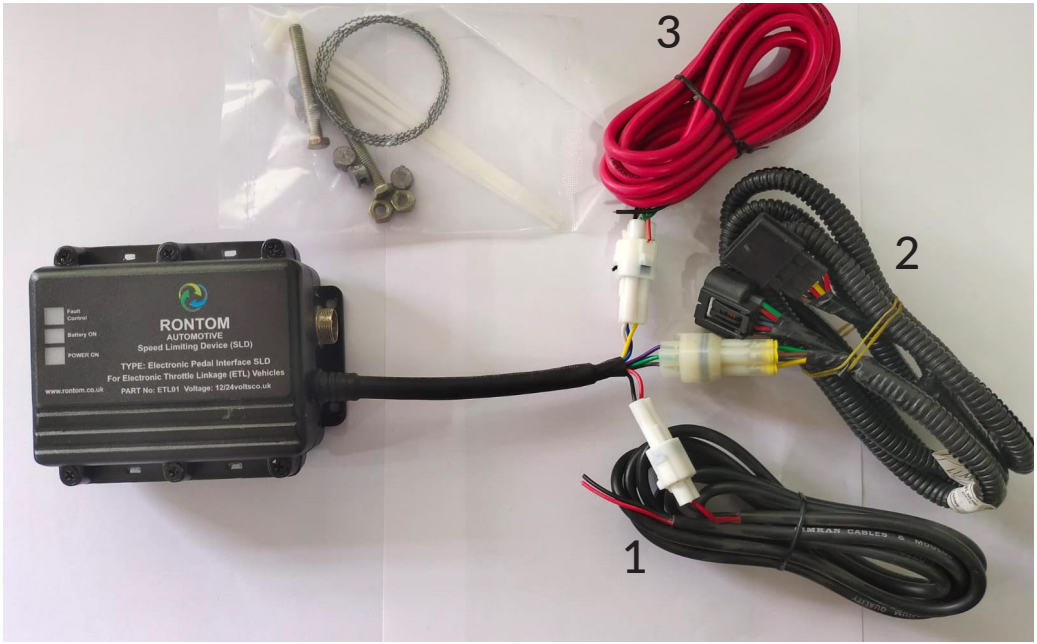
# ANNEXURE 1: - INSTALLATION MANUAL FOR E- PEDAL INTERFACE

## 1.1. E-PEDAL DEVICE CONNECTION DETAILS:




1. Power Cable
2. Pedal Cable
3. Sensor Cable

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1.3. PEDAL CONNECTOR WIRING DETAILS:
1. Brown – Reference voltage from Pedal
2. Grey – Reference Pedal voltage to ECU
3. Green –Main Pedal voltage to ECU
4. Violet – Main voltage from Pedal

1.4. POWER CONNECTOR:-
1. Red – 12V/24V DC Supply from Battery.
Black – Ground.
1.5. SENSOR CABLE WIRING DETAILS:-
1. Green cable to the speed sensor.

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# ANNEXURE 2: INSTALLATION STEP WISE PROCEDURE

*Note: All the cable wiring harness should be connected to the device after finishing the procedure below.*

## Step 1:

Connecting Pedal and ECU to the PI device

Pull out electronic pedal by unscrewing it

Note: 1. Ensure that the cable connector is not damaged while unscrewing the pedal.
2. Ensure car key is removed.

After unscrewing pedal keep the vehicle in battery mode without switching on Ignition.

Take the ground reference at cigarette lighter knob. Place thin lead into each pin of connector at pedal and check the voltages.

Note the voltages in following two conditions:

1. Without pressing Pedal (Reading 1)
2. Pressing Pedal with full throttle (Reading 2)

In the readings you will find two pin voltages varying from Reading 1 and 2.
For example:

| Reading 1 | Reading 2 |
|---|---|
| Pin X = 0.350V | Pin X = 2.000V |
| Pin Y = 0.700V | Pin Y = 4.000V |

In the above case Pin X is main voltage and Pin Y is reference voltage.
Note: Only two Pin voltages will vary according to pedal press, remaining pin voltages will not vary in the connector.

After finding two pins cut the two wires away from pedal connector.

We have main voltage and reference voltage. From pedal two wires should be connected to in of the PI device and out two wires of the device should be connected to the cable going to ECU.

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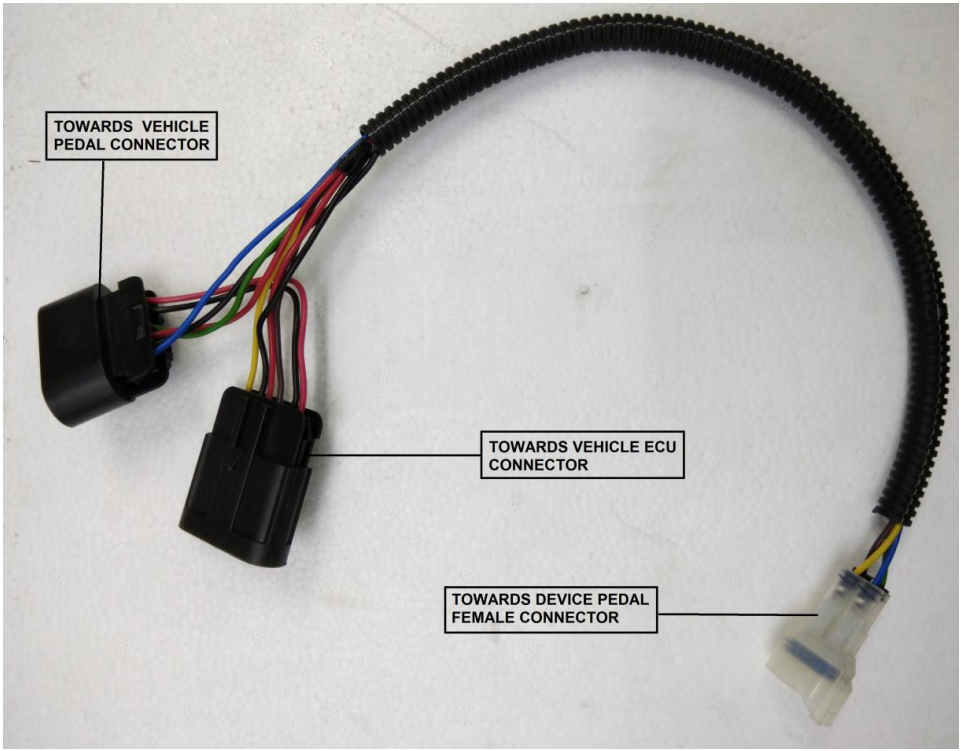
## 2.1. PEDAL CONNECTOR:




## 2.2. PEDAL CONNECTOR WIRING DETAILS:

1. Brown – Reference voltage from Pedal
2. Grey – Reference Pedal voltage to ECU
3. Green –Main Pedal voltage to ECU
4. Violet – Main voltage from Pedal

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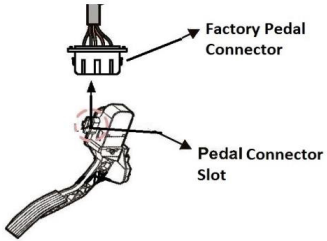
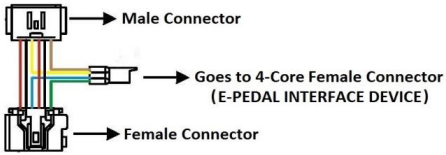
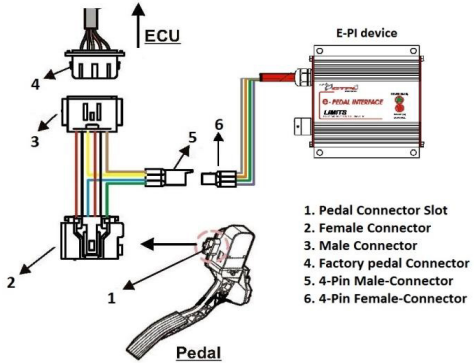
## 2.3. FIX THE PEDAL BACK IN SAME POSITION:




- Remove Factory Pedal Connector carefully without any damage of the Connector.
- Check the cables of the connector after removing




- Male Connector is connected to the Factory Pedal Connector.
- Female Connector is connected to the Pedal Connector Slot.




**Placement of APPS(Accelerator Pedal Position Sensor)**

- Place the Female Connector to the Pedal Connector Slot.
- Place the Male Connector to the Factory pedal Connector which is going to ECU.
- After placing the connections, Check the voltages at the 4-Pin Male-Connector, (Pedal Input voltages Pedal Main (~ 0.3V) and Pedal Reference (~ 0.7V)).
- Place the 4-Pin Male-Connector to the E-PI Device 4-Pin Female Connector.

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**Step 2:**

Power Cable: Power is given to PI device through this cable from Ignition.

RED - +12V  BLACK - GROUND


**Step 3:**

Connecting Speed sensor to PI device:

Trace the speed sensor cable on dashboard which will be going to speedometer.

While moving we will get pulses on the sensor output.

After tracing give connection to the speed sensor input of the device.

This sensor cable should be connected to 3 pin male of the PI device.

Only green wire should be connected to the speed sensor cable after tracing it.

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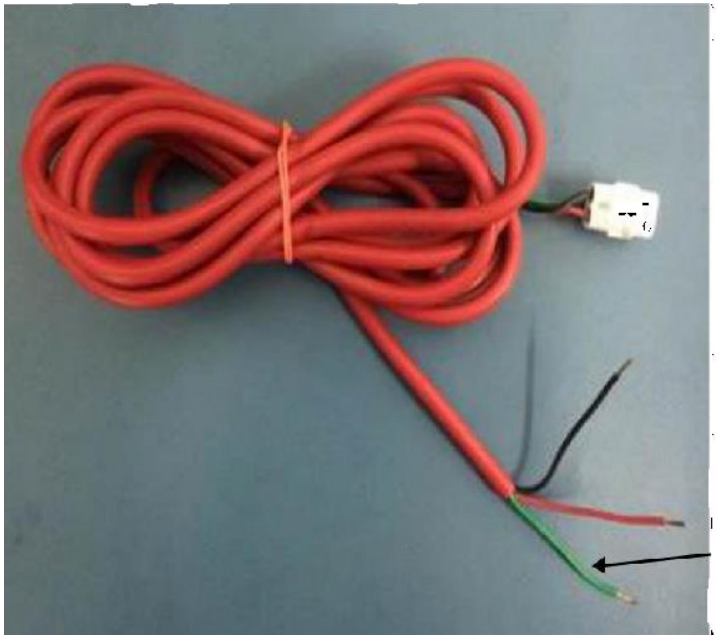

Green wire should be connected to sensor cable remaining two wires leave open.

Fig C: - Pedal positioning

***NOTE:*** *when the Speedometer sensor voltage is less than 1V then connect the Booster sensor cable in place of sensor cable above shown, otherwise the Booster Sensor (shown below) is not required.*

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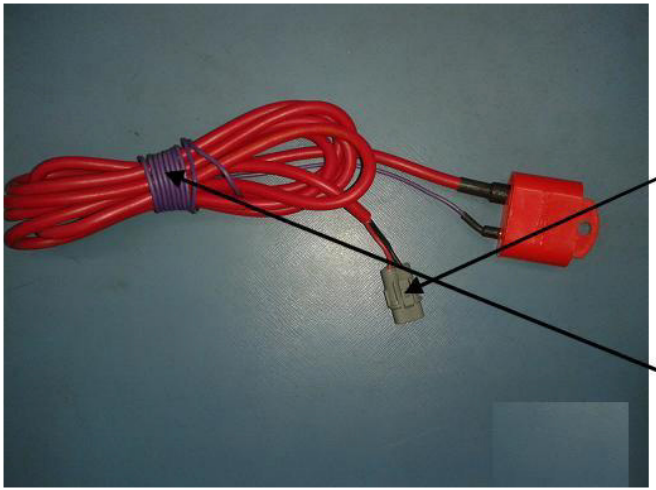
BOOSTER CONNECTOR WIRING DETAILS:



BOOSTER SENSOR FEMALE CONNECTOR CONNECTED TO E-PI SENSOR MALE CONNECTOR

Violet: - violet wire should be connecting to speedometer sensor output.

Fig F: - Booster Sensor

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## 2.3. FIX THE PEDAL BACK IN SAME POSITION:

- Check the sensing cable in gear box or dashboard and make sure that it is of 3-pin connector.
- Initially switch off the ignition before checking the sensing cable.
- Remove the connector and switch on the ignition of the vehicle and check the voltages at each point using multimeter by proper grounding.
- The voltages at sensor connector are 1.VCC, 2.GROUND, 3.SENSING.
- Connect that sensing cable to the E-Pedal interface device as input.

**Step 4:**

Connect the data logger to the PI device.

After completing the above procedure from Step-1 to Step -3, connect the connectors of the Pedal cable, Power cable, Sensor cable and Data logger to the Pedal interface Device as per the Diagram no: 1

Once the connections are done, insert the car key and on the ignition key.

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2.5. Configuring PI device through the ETL01-DL Test & Calibration Data Logger for the required speed.


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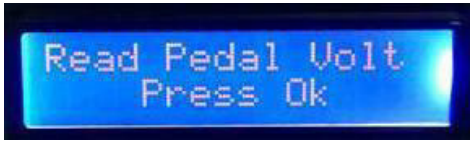
**Step 1:** Connect Logger (handheld device) to PI device. Key on the vehicle and observe the following LCD display


**Step 2:** press PEDAL SIM/Up button in the logger and observe the following LCD display.

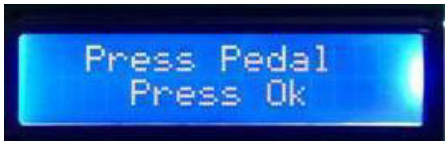




Press **OK** button.

**Step 3:** Release pedal and press **OK** button. Voltages read will be displayed on LCD Display.


Press **OK** button.





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**Step 4:** Press Pedal completely and press **OK** button. Full Pedal press voltages will be displayed on LCD display.


Press **RESET** button
(Red button found on the side wall of Logger)


**Step 5:** Press SPEED SET/LEFT button and set the following required Parameters

a. **Set speed**: Set the required set speed using **ETL01-DL Test & Calibration Data Logger.**
**Press SET** and adjust set speed using **READ/RIGHT, SET/LEFT, SIM/UP & DISP/DOWN** buttons.


Press **OK** button.

b. Pulses count to 8: Set the number of pulses to 8 using READ/RIGHT,
c. SIM/UP & DISP/DOWN buttons.


Press **OK** button.

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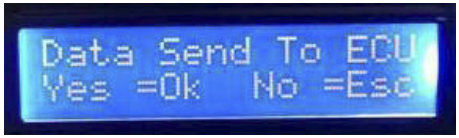
d. Tuning factor to 1:
Set the Tuning factor to 1 using **READ/ RIGHT, SIM/UP & DISP/DOWN** buttons and press **OK**.

Press **OK** button.

To write the set values, Press **OK** button.

Now, all the programmed data sent to PI device.



**STEP 6**: Press **ESC** button and then press **READ/RIGHT & OK** buttons to see the set speed and remaining parameters of PI device saved correctly or not on LCD display one by one.





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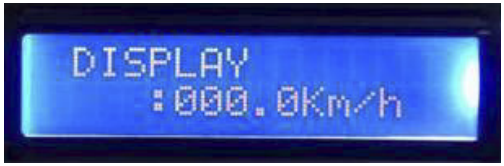


If the values do not match with the set values, retry by pressing **ESC** and **READ/RIGHT** button. If still values do not match again start from Step 1 to Step 5.

To see the speed in the logger press **ESC** and **DISP/Dec** button and see the present speed on the LCD Display.

**NOTE: Now run the vehicle and test for set speed (on the road or on a CT2 rolling road)**

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